

**WHAT IS CLAIMED IS:**

1. A method for a telephone network to restore private call information to a call directed to an out-of-network service node comprising:
  - (a) removing the private call information from the call and storing the private call information;
  - (b) forwarding the call outside the telephone network to the out-of-network service node;
  - (c) receiving, into the telephone network, an outgoing call from the out-of-network service node;
- 10 (d) retrieving the private call information and placing the private call information into the outgoing call; and
  - (e) forwarding the outgoing call to a forwarding destination and terminating the call to the outgoing call.
2. The method of claim 1, wherein removing and storing the private call information comprises:
  - (i) receiving the call at a service switching point and activating a trigger provisioned on the service switching point;
  - (ii) sending a query to a service control point in communication with the service switching point;

- (iii) recognizing, at the service control point, that the call is to the out-of-network service node; and
- (iv) removing the private call information using the service control point, and storing the private call information in a database in communication with the service control point.
- 5 3. The method of claim 1, wherein retrieving the private call information and placing the private call information into the outgoing call comprises:
- 10 (i) generating a transaction identification, storing the transaction identification with the private call information, and attaching the transaction identification to the call, before forwarding the call outside the telephone network;
- (ii) activating a trigger provisioned on a service switching point;
- (iii) sending a query to a service control point in communication with the service switching point;
- 15 (iv) recognizing, at the service control point, that the outgoing call is from the out-of-network service node; and
- (v) locating the private call information using the transaction identification, and inserting the private call information in the outgoing call.
4. The method of claim 3, wherein the outgoing call includes a customized dialing plan code and the trigger is a customized dialing plan trigger.

5. The method of claim 1, wherein the out-of-network service node provides an enhanced service selected from the group consisting essentially of a call forwarding service, a call screening service, and an announcement service.
6. A method for a telephone network to restore private call information to an outgoing call from a service node external to a telephone network comprising:
  - (a) removing and storing the private call information of an incoming call to the service node, and associating a transaction identification with the private call information and the incoming call;
  - (b) sending the incoming call to the service node external to the telephone network;
  - (c) associating the outgoing call with the transaction identification from the incoming call and sending the outgoing call into the telephone network; and
  - (d) retrieving the private call information using the transaction identification and inserting the private call information into the outgoing call.
- 15 7. The method of claim 6, wherein the private call information is a calling number and a privacy indicator of the incoming call.
8. The method of claim 6, wherein the service node determines a forwarding destination according to an enhanced service that the service node provides, and places the outgoing call to the forwarding destination.

9. The method of claim 8, further comprising:
- (e) sending the outgoing call to the forwarding destination; and
  - (f) terminating the incoming call to the outgoing call.
10. A system for providing calling number restoral comprising:
- 5 (a) a service switching point provisioned with an incoming trigger and an outgoing trigger;
  - (b) an out-of-network service node in communication with the service switching point; and
  - (c) a service control point in communication with the service switching point,

10 wherein the system removes private call information from a call exiting a telephone network, stores the private call information, and restores the private call information to the call when the call re-enters the network.

11. The system of claim 10, wherein the incoming trigger sends a first query to  
15 the service control point in response to receiving the call to the out-of-network service node.

12. The system of claim 11, wherein the first query prompts the service control point to remove and store the private call information from the call, to generate a transaction identification, to store the transaction identification with the stored

private call information, to attach the transaction identification to the call, and to send the call to the out-of-network service node.

13. The system of claim 12, wherein the outgoing trigger sends a second query to the service control point in response to receiving the call from the out-of-network  
5 service node.

14. The system of claim 13, wherein the second query prompts the service control point to locate the private call information and insert the private call information into the call based on the transaction identification.

15. The system of claim 10, wherein the out-of-network service node serves an  
10 enhanced service provider.

16. The system of claim 10, wherein the out-of-network service node receives an incoming call, places an outgoing call, and terminates the incoming call to the outgoing call to complete a call connection.

17. The system of claim 10, wherein the out-of-network service node  
15 communicates with the service switching point through an integrated services digital network basic rate interface.

18. The system of claim 10 further comprising:

- (d) a database provisioned on the service control point; and
- (e) a service package application provisioned on the service control point.

19. A service switching point for removing, storing, and restoring private call information of an out-of-network call comprising:
- (a) a means for communicating with a service control point;
  - (b) a means for communicating with an out-of-network service node;
  - 5 (c) an incoming trigger that sends a first query to the service control point in response to receiving the out-of-network call destined for the out-of-network service node; and
  - (d) an outgoing trigger that sends a second query to the service control point in response to receiving the out-of-network call from the out-of-network service node.

20. The service switching point of claim 19, wherein the out-of-network service node provides an enhanced service.
21. The service switching point of claim 19, wherein the service control point removes and stores the private call information in response to the first query and 15 restores the private call information in response to the second query.

22. A service control point for preventing private call information from exiting a telephone network comprising:
- (a) a means for removing the private call information from a call exiting the telephone network;

- (b) a means for storing the private call information;
- (c) a means for retrieving the private call information; and
- (d) a means for restoring the private call information to the call.

23. The service control point of claim 22, wherein the means for removing, the  
5 means for restoring, and the means for retrieving comprise a service package  
application.

24. The service control point of claim 22, wherein the means for storing the  
private call information comprises a database.

25. The service control point of claim 22, wherein the means for retrieving the  
10 private call information comprises a transaction identification.